REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-20 are pending in this application. Claims 1, 2, 7-10, 13, 14, 17 and 20 are amended by the present amendment. Support for the amended claims can be found in the original specification, claims and drawings.[1] No new matter is presented.

In the Office Action, Claim 1-12 and 20 were rejected under 35 U.S.C. § 101; Claims 1, 7-10, 13, 17 and 20 were rejected under 35 U.S.C. §112, second paragraph; Claims 1-19 were rejected under 35 U.S.C. §103(a) as unpatentable over Hayashida (U.S. Patent Publication No. 2002/0019973 A1) in view of Santhanam et al. (U.S. Patent No. 6,247,174 B1, herein Santhanam); and Claim 20 was rejected under 35 U.S.C. §103(a) as unpatentable over Hayashida in view of Santhanam and Curreri (U.S. Patent No. 6,091,896, herein Curreri).

In the outstanding Office Action, Claims 1-12 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Specifically, the Office Action notes that "[i]n claims 1-12, a 'compiler' is being recited; however, it appears that the compiler would reasonably be interpreted by one of ordinary skill in the art as software, per se." In response, independent Claim 1 is amended to recite a "compiler for generating object code from an input source program, the object code including user-defined machine instructions defined by a user..." Thus, Claim 1 is amended to clearly implicate a "machine" and is therefore directed to statutory subject matter.

Further, the outstanding Office Action rejected Claim 20 under 35 U.S.C. § 101 as directed to non-statutory subject matter because "[i]n claim 20, a 'tool' is being recited; however, it appears that the compiler would reasonably be interpreted by one of ordinary skill

[1] E.g., specification, Figs. 8 and 10.

in the art as software, per se." Similar to Claim 1, noted above, independent Claim 20 is amended to recite a "program development system for developing an application program for a processor which can execute user-defined machine instructions defined by a user..." Thus, Claim 20 clearly implicates a processor which executes code defined in the claim.

Accordingly, Applicant respectfully requests that the rejection of Claim 1-12 and 20 were rejected under 35 U.S.C. § 101 be withdrawn.

The outstanding Office Action rejected Claims 1, 13 and 20 under 35 U.S.C. §112, second paragraph, as indefinite. More specifically, the Office Action asserts that "the phrase 'in a case where a string of the machine instructions generated by the code generator are in agreement with the details of the processing operations of the intrinsic function stored in the intrinsic function definition database' renders the claims indefinite because it is unclear as to what this phrase means and how 'agreement' is measured."

In response, independent Claims 1, 13 and 20 are amended to clarify the features directed to the "syntax analyzer" and "code optimizer," and recite, in part:

> analyzing, by a syntax analyzer, whether or not an operation described in the source program conforms to grammatical rules, outputting, by the syntax analyzer, a result of the analysis as an syntax-analysis result, and associating, by the syntax analyzer, the details of the processing operations with the user-defined machine instructions and storing the associated details of the processing operations and user-defined machine instructions in an intrinsic function definition database when detecting that the combination of the instructions is a function definition of the intrinsic function which defines the details of the processing operations associated so as to be converted into the user-defined machine instruction... and
>
> replacing, by a code optimizer, the machine instructions by the corresponding user-defined machine instructions stored in the intrinsic function definition database in the case where the machine instructions generated by the code generator are associated with the details of the processing operations stored in the intrinsic function definition database.

Thus, the syntax analyzer associates the details of the processing operations with the user-defined machine instructions and stores the associated details of the processing

operations and user-defined machine instructions in an intrinsic function definition database, when detecting that the combination of the instructions is a function definition of the intrinsic function which defines the details of the processing operations associated so as to be converted into the user-defined machine instruction (See Fig. 8). Then, the code optimizer replaces the machine instructions by the corresponding user-defined machine instructions stored in the intrinsic function definition database, when the machine instructions generated by the code generator are associated with the details of the processing operations stored in the intrinsic function definition database (See Fig. 10).

Further, dependent Claims 7-10 and 17 were rejected as indefinite because "the phrase 'plural definitions of details of the processing operations can be defined in the intrinsic function definition database relative to a single intrinsic function' renders the claims indefinite because it is unclear as to what this phrase means."

In response, Claims 7-10 and 17, are amended to recite that "in the intrinsic function definition database, plural kind of details of the processing operations can be defined for one intrinsic function." Support for this claimed feature can be found at least at p. 14, ll. 4-8 of the originally filed specification.

Therefore, Applicant submits that independent Claims 1, 13 and 20, and dependent Claims 7-10 and 17, are definite and particularly point out the subject matter which Applicant regards as the invention. Accordingly, Applicant respectfully requests that the rejection of Claims 1, 7-10, 13, 17 and 20 under 35 U.S.C. §112, second paragraph, be withdrawn.

In the Office Action, Claims 1-19 are rejected under 35 U.S.C 103(a) as unpatentable over Hayashida in view of Santhanam.

As noted above, independent Claims 1 is amended to recite, in part, a compiler for generating object code from an input source program, the compiler comprising:

> analyzing, by a syntax analyzer, whether or not an operation described in the source program conforms to

> grammatical rules, outputting, by the syntax analyzer, a result of the analysis as an syntax-analysis result, and associating, by the syntax analyzer, the details of the processing operations with the user-defined machine instructions and storing the associated details of the processing operations and user-defined machine instructions in an intrinsic function definition database when detecting that the combination of the instructions is a function definition of the intrinsic function which defines the details of the processing operations associated so as to be converted into the user-defined machine instruction... and
>
> replacing, by a code optimizer, the machine instructions by the corresponding user-defined machine instructions stored in the intrinsic function definition database in the case where the machine instructions generated by the code generator are associated with the details of the processing operations stored in the intrinsic function definition database.

Independent Claim 13, while directed to alternative an alternative embodiment, is amended to recite substantially similar features. Accordingly, the remarks and arguments presented below are applicable to each of amended independent Claims 1 and 13.

It is submitted that Hayashida, Santhanam, and the combination of Hayashida with Santhanam fail to teach or suggest the above noted features recited in amended independent Claims 1 and 13.

More particularly, in Hayashida and Santhanam, it is necessary to correct so that the intrinsic function of the machine instruction must be used for the body of user application program.

On the other hand, in the present invention as recited in Claim 1, the code optimizer replaces the machine instructions by the corresponding user-defined machine instructions stored in the intrinsic function definition database, when the machine instructions generated by the code generator are associated with the details of the processing operations stored in the intrinsic function definition database. Then, since the definition of the intrinsic function instead of the user application itself is separately performed including a definition of operation (at head of a header file or user application), it has the operation effect that it is not necessary to edit the body of an application program. That is, the machine instruction of the

user-defined instruction is generable with ANSI-C described, for example, in col. 1, l. 32 of Santhanam.

This operation effect is not expectable from Hayashida, Santhanam, and the combination of Hayashida and Santhanam.

Thus, Hayashida, Santhanam, and the combination of Hayashida with Santhanam, substantially differ from claimed structure in independent Claims 1 and 13 of the present invention, and cannot achieve the effectiveness of the invention as recited in independent Claims 1 and 13. Therefore, independent Claims 1 and 13 patentably define over the applied references.

Claim 2-12, and 14-19 depend from each of independent Claims 1 and 13, respectively, and are patentable over the applied references for at least the reasons discussed above.

Accordingly, Applicant respectfully requests that the rejection of Claims 1-19 under 35 U.S.C. §103 be withdrawn.

With regard to the rejection of Claim 20 under 35 U.S.C. §103(a) as unpatentable over Hayashida in view of Santhanam and Curreri, it is noted that Claim 20 recites features substantially similar to independent Claims 1 and 13 and is believed to be patentable for at least the reasons discussed above. Further, it is respectfully submitted that Curreri fails to remedy any of the above noted deficiencies of the combination of Hayashida and Santhanam.

Accordingly, Applicant respectfully requests that the rejection of Claim 20 under 35 U.S.C. §103(a) be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-20 is definite and patentably defines over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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